Using Epic to Improve Care of Older Patients

Elizabeth Eckstrom, M.D.
Michael L. Malone, M.D.
January 19, 2013
Learning Objectives:

• Discuss the successes and challenges of using the EMR to document care.
• Discuss Epic tools in the ambulatory setting.
• Describe a report to identify vulnerable hospitalized patients: ACE Tracker.
Learning Objectives:

• Describe strategies to bring Epic tools to scale within a health care system.
• Discuss key problems with using templates and copying/pasting information on records.
• Describe a vision for standard Epic tools to improve care for older Americans.
Key background information:

- Fifty-five percent of hospitals have already qualified for incentive payments for meaningful use of an electronic medical record.
- Eighty-five percent of hospitals will participate in the CMS incentive payments by 2015.
- The Hitech Act was signed in February, 2009 providing $27 billion in financial incentives for digital health record use.
- Meaningful Use criteria specifies older patients record advance directive.
- Epic is the provider of 48% of the market. Personal communication with Irene Hamrick, MD on 12-21-12

N Engl J Med 2012,
2002 ACE unit- Best practice, partially applied:
Best Practices in the Care of Older Adults:

- Enable seniors to remain at home.
- Prevent functional disability.
- Preserve patient quality of life.
- Respect patient values.
- Consider patient safety.
- Address needs of caregivers.
- Appreciate psychosocial needs.

With permission from Robert M. Palmer MD. November, 2010.
Describe a report used to identify vulnerable older hospitalized patients:

ACE Tracker
Aurora at a Glance

- State’s largest health care provider
- State’s largest private employer with 30,000 employees
- State’s largest provider of Medicaid
- Serving 31 counties, 90 communities
- 15 hospitals, 155 clinics
- More than 1,650 employed physicians
- State’s largest homecare provider
- Nearly 100 pharmacies
- $4.3 billion in annual revenue
- 11 employed geriatricians, 5 in the community.
- 7 geriatrics nurse practitioners.
- One electronic medical record.
Acute Care for Elders - 2012

Functional Older Person

Acute Illness, Possible Impairment

Hospitalization

Depressed Mood, Negative Expectations

ACE Programs

Prehab Program Interventions:
- Prepared environment with standard equipment for seniors
- Patient-centered, interdisciplinary care
- Multi-dimensional assessment and non-pharmacologic prescription
- Home planning/informal network
- Medical review using real-time information technology tools

Improved Mood, Positive Expectations

Reduced Impairment

Decreased Iatrogenic Risk Factors

Functional Older Person

Aurora Health Care

Acute Care for Elders
ACE Tracker software to identify vulnerable elders:

Table 1. Example of Plasma from ACE Tracker Summarizing Risk Factor for Patients Age 85 or Older on a Hospital Unit

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<tr>
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• Harvests “real-time” information from the older patients’ electronic medical record.
• Provides a computer-generated checklist of key indicators of risk for hospitalized older patients.
• Does not require a new activity of the nurse or pharmacists.
• Is available at all med-surg units of all Aurora hospitals.
• Used to disseminate the ACE unit model broadly.
ACE Tracker software to identify vulnerable elders:


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</table>
From ACE unit... to an ACE Tracker report on every hospital unit

Throughout the health system
Describe strategies to bring Epic tools to scale within a health system:

• Develop a development “team”.
• Get key buy-in from health system/ IT leadership.
• Define the priorities to improve the care of older patients.
• Use the EHR to represent key geriatrics models.
• Define the “end user” of the Epic tools.
• Keep the tools simple.
• Validate the tools against real patients.
• Encourage “fiddling”- constantly experimenting with improvements.
• Develop version 1.0 and then continuously improve next tools.

Michael L. Malone, M.D. 1-3-13
The message:

• *Older persons need safe care throughout an integrated health care system.*

• *ACE provides a strategy to prevent common safety problems for older patients.*

• *ACE Tracker brings the strategy to the entire hospital.*

• “e-Geriatrician” brings ACE to rural hospitals.
Best Care for Hospitalized Older Patients:

Simplified Care for the Patient

- Simple & easy to use
- Smooth transitions coordinated care
- Complex, fragmented episodic care experience
- All patients, same care, same way
- Different services for different needs/groups
- Care designed around patient needs
- Rapid implementation of different care delivery models
- Rapid adopter of best practices / services
- Leading edge health care
- Best care everywhere
- Best practices partially applied
- Implementation of high quality, simple care

Rapid Adopter

Designed for You

Designing different care delivery models facilitates simplified care based on patient needs and characteristics
Could we use the real-time ACE Tracker reports & a regular conference call to spread ACE to remote hospitals?

Yes!
• No geriatrician available in many rural hospitals.
• Need to disseminate ACE concepts to sites no geriatricians on staff.
• Single electronic health record led to the concept of using ACE Tracker at remote sites.
• ACE unit interdisciplinary teams developed at remote sites.
• Geriatricians build working relationships at teams at distant sites.
• Geriatricians join interdisciplinary teams for scheduled teleconferences.
• Team recommendations are provided to medical staff at remote sites.
Current Status of Acute Care for Elders:

- ACE units at two hospitals in Milwaukee.
- Acute Care for Elders programs at 12 of 15 medical centers.
- Total of 44 medical surgical units within Aurora (two at Wausau Aspirus Hospital) practicing Acute Care for Elders model.

“e-Geriatricians” join interdisciplinary teams for scheduled teleconferences at 7 remote/ rural sites.

ACE Tracker software integrates the model of care into the system-wide electronic health record.

NICHE model in 4 hospitals, 3 SNF’s, homecare, and clinic.

ACE Consult Programs at three hospitals.

ACE Pocket Cards help to educate the staff.

Annual education conference- November 1, 2013.

ACE/ NICHE app for Android phones.
Using Health Information Technology to Identify Vulnerable Older Patients

Health Intelligence Phases

**Assess and Organize**
- Organizational Readiness
- Governance plan
- Communications plan and budget

**Build Foundation**
- Retrospective Measurement

**Near real time**
- Quality/Performance Mgmt
- Advanced query capabilities
- Advanced quality triggers and performance alerts
- Additional data sources

**Performance Excellence**
- Real time clinical treatment evaluation
- Third party data sources/benchmarks
- Supports other care settings

**Phase 2:**
- High priority initiatives
- Architect the technology
- Complete Initial pilot/proof of concept

**Phase 3:**
- Advanced query capabilities
- Advanced quality triggers and performance alerts
- Additional data sources
### Comparison of Processes and Outcomes Before and After Institution of ACE Tracker at a Remote Hospital

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<th>6 Months After (%)</th>
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* These processes were utilized on day two of hospitalization.
Comparisons of Processes of Care During and After the Institution of ACE Tracker and e-Geriatrician at 14 Aurora Health Care Hospitals

- Physical Therapy evaluation by day 2
- Social Service evaluation by day 2
- Urinary Catheter on day 2

*An estimated 2400 fewer urinary catheters per year.*

- 30,996 patients in 2010
- 23,317 patients in 2011

Administrative data for quality improvement purposes.
## Day 2 Report - Based on Patient Location at 48 hours

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<th>Total IP</th>
<th>Total IP w/5 yrs</th>
<th>Total w/ ICU stay within 48 hours of Admit</th>
<th>Pts Rdmt in 30 Days</th>
<th>Pts w/ Delirium within 48 hrs of admit</th>
<th>Pts W/ Hal/Sevl Admin w/ 48 hrs of admit</th>
<th>Pts W/ Restraints w/ 48 hrs of admit</th>
<th>Pts W/ Delirium Proxy w/ 48 hrs of admit</th>
<th>Pts W/ PT within 48 hrs of admit</th>
<th>Pts W/ UC POA before ED or OR</th>
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ACE Tracker Collaboration Project:

• Share the ACE Tracker code with hospitals that agree to measure their outcomes.
• Collaborate / share with EMR sites across the country that agree to measure outcomes.
  – Stony Brook Medical Center.
  – Sentara Health Care.
  – Mount Sinai Toronto.
  – University of Alabama at Birmingham.
## Dissemination of ACE Tracker

<table>
<thead>
<tr>
<th>Task</th>
<th>Sentara (Epic)</th>
<th>Stony Brook</th>
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<tr>
<td>Sign legal/intellectual property agreement between institutions.</td>
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<td>Perform a gap analysis of the measures in the EHR at the secondary site.</td>
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<td>Share the specifications of the report.</td>
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<td>Share the software code.</td>
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<td>Define “the end users” of the ACE Tracker tool.</td>
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<td>Write the code for the ACE Tracker.</td>
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<td>Get IRB waiver for quality improvement process to validate the tool.</td>
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<td>Share code &amp; build “Day-two snapshot” quality indicators.</td>
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<td>Measure quality indicators at baseline.</td>
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<td>Implement ACE Tracker in “test mode” at hospital.</td>
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<td>Use the ACE Tracker report in practice.</td>
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<td>Collaborate to improve outcomes.</td>
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Lessons Learned:

• Disseminating ACE Tracker requires a diverse team to integrate the code into each health system.
• The “snapshot report” of processes of care can provide a large scale assessment of indicators for an older population.
• Validation of the reports takes considerable effort.
• Dissemination of the ACE Tracker report requires simplification of a complex process.
Describe problems with copying/pasting information:

- “Cloning” (cutting and pasting information from one patient to another) and “upcoding” of the intensity of care = Medicare fraud.*
- Cloning undermines the integrity of the information and is not in the patient’s interest.

*September 24, 2012 Letter from Kathleen Sebelius and Eric H. Holder, Jr.
Describe problems with templates of the electronic medical record:

• Templates cannot take into account complexity.
• Templates that are not accurate also undermine the integrity of the medical record.
• The Epic social service template is primitive and does not take into account older patients’ needs.
The challenges with Epic:

• Each institution must adapt the tool to their needs.
  – Time / $/ skills to implement senior friendly programs.
  – Epic is not taking input to adapt the product.
• Information is not in a structured format.
  – Documentation requires time to type in.
• Templates require lots of typing information.
  – No “previous” button.
• **Function and cognition** are not in a structured format.
  – Information cannot be tracked over time.
• There are lots of added tasks for the MD/ attention to the EHR may impact interaction with the patient.
Improving Epic for Older Patients:

General Components of an EHR
1. Data should be in structured format for easy retrievability and monitoring over time.
2. 24 hour IT support should be available.
3. Automatic billing level suggestion (and submission of bill).
4. Retrievability of data for quality reporting and research.
5. Previous button to import last visits data into various (all or some) fields.
6. Reminders for preventive care that is due.
7. Options for users to add test, scales, etc. as knowledge and evidence develop and warrant it.
8. Designated area for caregiver information.
Data should be in a structured format for easy retrievability and tracking over time.

Irene Hamrick, MD
University of Wisconsin
School of Medicine and Public Health
Irene Hamrick, MD
University of Wisconsin School of Medicine and Public Health
Geriatric Depression Scale

Do you feel that your situation is hopeless?
Do you think that most persons are better off than you are?
Have you dropped many of your interests and activities?
Do you feel that your life is empty?
Are you afraid that something bad is going to happen to you?
Do you feel that you have more problems with memory than most?
* Do you feel pretty worthless the way you are now?
* Do you prefer to stay home at night rather than go out and do new things?
* Do you often feel helpless?
* Do you often get bored?
* Are you basically satisfied with your life?
Are you in good spirits most of the time?
Do you feel happy most of the time?
Do you think it is wonderful to be alive now?
Do you feel full of energy?

The asterisk (*) indicates questions used for the short version.

Geriatric Depression Scale Score: [Blank]

Prev Form (Ctrl+PgUp)  Next Form (Ctrl+PgDn)  Close
What is the YEAR, SEASON, DATE, DAY, MONTH?  Score (5):  

Where are we?  COUNTRY, STATE, COUNTY, CITY, CLINIC  Score (5):  

Registration
Name 3 objects allotting 1 second to say each:  APPLE - BOOK - COAT.  Patient to name all 3.  Repeat until all heard.  

# of Trials:  Score (3):  

Attention and Calculation
Begin at 100 and count backward by 7 (stop after 5 answers) - 93-86-79-72-65  
May use "WORLD" and spell backward.  

Pt Spelling:  Score (5):  

Recall
Patient to repeat objects above in Registration.  Score (3):  

Language
Naming: show pencil and watch and ask patient to name.  Score (2):  

Repetition: Repeat the following "No ifs, ands, or buts."  Score (1):  

Three Stage Command: Follow the three stage command.  "Take a paper in your right hand, fold it in half, and put it on the table."  Score (3):  

Reading: Read and obey "Close eyes" (show item)  Score (1):  

Writing: Write a sentence  Score (1):  

Copying: Copy the design of the intersecting pentagons.  Score (1):  

Calculate Score:  
Total Score (30):  

Prev Form (Ctrl+PgUp)  Next Form (Ctrl+PgDn)  Close
Describe a vision for standard Epic tools to improve care for older adults:

• Get buy in from Epic leadership.
• Change the Epic base structure for all older patients, not just those of geriatricians. — The end user is the primary care provider.
• Priorities= structured format to track:
  — Functional: ADL’s & IADL’s.
  — Cognition/ depression.
  — Falls/ Gait assessment.
  — Advance directives.